

REMARKS

The present amendment is submitted in response to the Office Action dated June 17, 2004, which set a three-month period for response, making this amendment due by September 17, 2004.

Claims 1-9 are pending in this application.

In the Office Action, claims 4-9 were objected to under 37 CFR 1.75(c) as being in improper form on grounds a multiple dependent claim cannot depend from another multiple dependent claim. Claims 1-3 were rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,464,388 to Merte et al in view of U.S. Patent No. 5,702,358 to Witherspoon et al.

In the present amendment, the claims were amended to eliminate multiple claim dependencies and to adopt standard U.S. claim format and language.

To more clearly define the present invention over the cited references, claim 1 was amended to add the feature that "the at least one pump is located upstream of the at least one mixing unit".

The Applicants respectfully submit that the cited reference combination fails to make obvious the present invention as defined in amended claim 1.

The primary reference to Merte et al discloses the combination of a pump and a tube system. The tubes comprise pin valve for compressing the tubes to avoid fluid flow. The valves are controlled by a controller. By controlled opening and closing the valves, a mixing ratio of the fluids is established. The pump is

disposed downstream of the mixing unit. The only purpose of the recirculation tube is to avoid pressure build-up. It has no function in terms of mixing.

The secondary reference to Witherspoon et al discloses a control unit that controls two pumps. The pumps mix two liquids in a ratio determined by a pumping power. Passive chamber wheels are neither disclosed nor suggested.

A combination of the teachings of Merte et al and Witherspoon et al would lead the practitioner skilled in the art to replace the pinching valves of Merte et al by controlled roller pumps. However, a mixing unit comprising two (passive) chamber wheels, as defined in amended claim 1, cannot be obtained by combining the teachings of Merte and Witherspoon.

In the existing state of the art, mixing devices are used, which require controllers for controlling the mixing devices. In contrast, according to the present invention, an arbitrary blood pump, which may also be the heart itself, generates a blood flow which drives a chamber wheel. The first chamber wheel then drives a second chamber wheel either directly or by means of a gear unit. Therefore, a passing mixing is effected, determined by the volumes of the chamber wheels or the gear ratio. Thus, the chamber wheels according to the present invention are not drive by individual pumps or directly via a common pump.

In addition, according to amended claim 1, the pump is disposed upstream of the mixing unit. The chamber wheels are passive elements, not active pumps. They are not driven or controlled by a controller, in contrast to the cited art.

Because amended claim 1 includes a feature neither disclosed nor suggested by the cited reference combination, specifically, that the at least one pump is disposed upstream of the at least one mixing unit, the rejection under Section 103 cannot be maintained. Obviousness cannot be established by combining the teachings of the cited art to produce the claimed invention, absent some teaching or suggestion supporting the combination. Under Section 103, teachings of references can be combined only if there is some suggestion or incentive to do so. *ACS Hosp. Sys., Inc. v. Montefiore Hosp.*, 221 USPQ 929, 932, 933 (Fed. Cir. 1984). The combination of the Merte et al and Witherspoon et al references fails to provide any such suggestion.

For the reasons set forth above, the Applicants respectfully submit that claims 1-9 are patentable over the cited art. The Applicants further request withdrawal of the rejection under 35 U.S.C. 103 and reconsideration of the claims as herein amended.

It has been noted that the Information Disclosure Statement filed simultaneously with the application has not been considered or acknowledged by the Examiner. Consideration of the Information Disclosure Statement is respectfully requested.

In light of the foregoing amendments and arguments in support of patentability, the Applicants respectfully submit that this application stands in condition for allowance. Action to this end is courteously solicited.

Should the Examiner have any further comments or suggestions, the undersigned would very much welcome a telephone call in order to discuss

appropriate claim language that will place the application into condition for allowance.

Respectfully submitted,



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